

SEQUENCE LISTING

<110> Evotec NeuroSciences GmbH

<120> Diagnostic and therapeutic use of Vault polynucleotides
and proteins for neurodegenerative diseases.

<130> P67785US1

<140> PCT/EP03/03626

<141> 2002-04-08

<150> 02007820.0

<151> 2002-04-08

<150> US 60/370,214

<151> 2002-04-08

<160> 14

<170> PatentIn Ver. 2.1

<210> 1

<211> 35

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: ADPRTL1 cDNA
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<210> 2

<211> 1724

<212> PRT

<213> Homo sapiens

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Tyr Leu Pro Gln Gln Lys Lys Lys Leu Gln Thr Asp Ile Lys Glu
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Asn Gly Gly Lys Phe Ser Phe Ser Leu Asn Pro Gln Cys Thr His Ile
35 40 45

Ile Leu Asp Asn Ala Asp Val Leu Ser Gln Tyr Gln Leu Asn Ser Ile
50 55 60

Gln Lys Asn His Val His Ile Ala Asn Pro Asp Phe Ile Trp Lys Ser
65 70 75 80

Ile Arg Glu Lys Arg Leu Leu Asp Val Lys Asn Tyr Asp Pro Tyr Lys
85 90 95

Pro Leu Asp Ile Thr Pro Pro Pro Asp Gln Lys Ala Ser Ser Ser Glu

100					105					110				
Val	Lys	Thr	Glu	Gly	Leu	Cys	Pro	Asp	Ser	Ala	Thr	Glu	Glu	Asp
		115					120					125		
Thr	Val	Glu	Leu	Thr	Glu	Phe	Gly	Met	Gln	Asn	Val	Glu	Ile	Pro
	130					135					140			His
Leu	Pro	Gln	Asp	Phe	Glu	Val	Ala	Lys	Tyr	Asn	Thr	Leu	Glu	Lys
145					150					155				160
Gly	Met	Glu	Gly	Gly	Gln	Glu	Ala	Val	Val	Val	Glu	Leu	Gln	Cys
				165					170					175
Arg	Asp	Ser	Arg	Asp	Cys	Pro	Phe	Leu	Ile	Ser	Ser	His	Phe	Leu
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Asp	Asp	Gly	Met	Glu	Thr	Arg	Arg	Gln	Phe	Ala	Ile	Lys	Lys	Thr
		195					200					205		Ser
Glu	Asp	Ala	Ser	Glu	Tyr	Phe	Glu	Asn	Tyr	Ile	Glu	Glu	Leu	Lys
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Gln	Gly	Phe	Leu	Leu	Arg	Glu	His	Phe	Thr	Pro	Glu	Ala	Thr	Gln
225					230					235				240
Ala	Ser	Glu	Gln	Leu	Gln	Ala	Leu	Leu	Leu	Glu	Glu	Val	Met	Asn
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Ser	Thr	Leu	Ser	Gln	Glu	Val	Ser	Asp	Leu	Val	Glu	Met	Ile	Trp
			260					265					270	Ala
Glu	Ala	Leu	Gly	His	Leu	Glu	His	Met	Leu	Leu	Lys	Pro	Val	Asn
		275					280					285		Arg
Ile	Ser	Leu	Asn	Asp	Val	Ser	Lys	Ala	Glu	Gly	Ile	Leu	Leu	Leu
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Lys	Ala	Ala	Leu	Lys	Asn	Gly	Glu	Thr	Ala	Glu	Gln	Leu	Gln	Lys
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Met	Thr	Glu	Phe	Tyr	Arg	Leu	Ile	Pro	His	Lys	Gly	Thr	Met	Pro
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Glu	Val	Asn	Leu	Gly	Leu	Leu	Ala	Lys	Lys	Ala	Asp	Leu	Cys	Gln
			340					345					350	Leu
Ile	Arg	Asp	Met	Val	Asn	Val	Cys	Glu	Thr	Asn	Leu	Ser	Lys	Pro
		355					360					365		Asn
Pro	Pro	Ser	Leu	Ala	Lys	Tyr	Arg	Ala	Leu	Arg	Cys	Lys	Ile	Glu
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Val	Glu	Gln	Asn	Thr	Glu	Glu	Phe	Leu	Arg	Val	Arg	Lys	Glu	Val
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Gln	Asn	His	His	Ser	Lys	Ser	Pro	Val	Asp	Val	Leu	Gln	Ile	Phe
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Val	Gly	Arg	Val	Asn	Glu	Thr	Thr	Glu	Phe	Leu	Ser	Lys	Leu	Gly
														Asn

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Val	Arg	Pro	Leu	Leu	His	Gly	Ser	Pro	Val	Gln	Asn	Ile	Val	Gly	Ile
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Leu	Cys	Arg	Gly	Leu	Leu	Leu	Pro	Lys	Val	Val	Glu	Asp	Arg	Gly	Val
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Ser	Leu	Ser	Thr	Ser	Ile	Lys	Tyr	Ser	His	Pro	Gly	Glu	Thr	Asp	Gly
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Thr	Arg	Leu	Leu	Leu	Ile	Cys	Asp	Val	Ala	Leu	Gly	Lys	Cys	Met	Asp
			500					505					510		
Leu	His	Glu	Lys	Asp	Phe	Ser	Leu	Thr	Glu	Ala	Pro	Pro	Gly	Tyr	Asp
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Ser	Val	His	Gly	Val	Ser	Gln	Thr	Ala	Ser	Val	Thr	Thr	Asp	Phe	Glu
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Asp	Asp	Glu	Phe	Val	Val	Tyr	Lys	Thr	Asn	Gln	Val	Lys	Met	Lys	Tyr
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Ile	Ile	Lys	Phe	Ser	Met	Pro	Gly	Asp	Gln	Ile	Lys	Asp	Phe	His	Pro
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Thr	Lys	Ala	Gly	Leu	Gln	Asp	Ala	Ser	Gly	Asn	Leu	Val	Pro	Leu	Glu
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Asp	Val	His	Ile	Lys	Gly	Arg	Ile	Ile	Asp	Thr	Val	Ala	Gln	Val	Ile
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Val	Phe	Gln	Thr	Tyr	Thr	Asn	Lys	Ser	His	Val	Pro	Ile	Glu	Ala	Lys
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Tyr	Ile	Phe	Pro	Leu	Asp	Asp	Lys	Ala	Ala	Val	Cys	Gly	Phe	Glu	Ala
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Phe	Ile	Asn	Gly	Lys	His	Ile	Val	Gly	Glu	Ile	Lys	Glu	Lys	Glu	Glu
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	690					695					700				
Leu	Met	Ser	Gln	Asp	Ala	Pro	Asp	Val	Phe	Thr	Val	Ser	Val	Gly	Asn
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Leu	Pro	Pro	Lys	Ala	Lys	Val	Leu	Ile	Lys	Ile	Thr	Tyr	Ile	Thr	Glu
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740					745					750					
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Val	Glu	Lys	Ile	Cys	Ile	Lys	Glu	Ile	Gly	Thr	Lys	Gln	Ser	Phe	Ser
	770					775					780				
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	785				790					795					800
Asp	Thr	His	Glu	Leu	Lys	Gln	Lys	Arg	Thr	Asp	Cys	Lys	Ala	Val	Ile
				805					810					815	
Ser	Thr	Met	Glu	Gly	Ser	Ser	Leu	Asp	Ser	Ser	Gly	Phe	Ser	Leu	His
			820					825					830		
Ile	Gly	Leu	Ser	Ala	Ala	Tyr	Leu	Pro	Arg	Met	Trp	Val	Glu	Lys	His
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Pro	Glu	Lys	Glu	Ser	Glu	Ala	Cys	Met	Leu	Val	Phe	Gln	Pro	Asp	Leu
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Leu	Asp	Cys	Ser	Ser	Ser	Met	Glu	Gly	Val	Thr	Phe	Leu	Gln	Ala	Lys
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		915						920					925		
Lys	His	Ile	Thr	Ser	Asn	Thr	Ala	Ala	Ala	Glu	Phe	Ile	Met	Ser	Ala
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Thr	Pro	Thr	Met	Gly	Asn	Thr	Asp	Phe	Trp	Lys	Thr	Leu	Arg	Tyr	Leu
	945				950					955					960
Ser	Leu	Leu	Tyr	Pro	Ala	Arg	Gly	Ser	Arg	Asn	Ile	Leu	Leu	Val	Ser
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		995				1000					1005				
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Glu	Tyr	Phe	Asn	Ala	Lys	Ser	Lys	His	Ser	Trp	Arg	Lys	Gln	Ile	Glu
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Asp	Gln	Met	Thr	Arg	Leu	Cys	Ser	Pro	Ser	Cys	His	Ser	Val	Ser	Val
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Lys	Trp	Gln	Gln	Leu	Asn	Pro	Asp	Ala	Pro	Glu	Ala	Leu	Gln	Ala	Pro

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Phe Ile Pro His Cys Thr Gln Ala Thr Leu Cys Ala Leu Ile Gln Glu 1090 1095 1100		
Lys Glu Phe Cys Thr Met Val Ser Thr Thr Glu Leu Gln Lys Thr Thr 1105 1110 1115 1120		
Gly Thr Met Ile His Lys Leu Ala Ala Arg Ala Leu Ile Arg Asp Tyr 1125 1130 1135		
Glu Asp Gly Ile Leu His Glu Asn Glu Thr Ser His Glu Met Lys Lys 1140 1145 1150		
Gln Thr Leu Lys Ser Leu Ile Ile Lys Leu Ser Lys Glu Asn Ser Leu 1155 1160 1165		
Ile Thr Gln Phe Thr Ser Phe Val Ala Val Glu Lys Arg Asp Glu Asn 1170 1175 1180		
Glu Ser Pro Phe Pro Asp Ile Pro Lys Val Ser Glu Leu Ile Ala Lys 1185 1190 1195 1200		
Glu Asp Val Asp Phe Leu Pro Tyr Met Ser Trp Gln Gly Glu Pro Gln 1205 1210 1215		
Glu Ala Val Arg Asn Gln Ser Leu Leu Ala Ser Ser Glu Trp Pro Glu 1220 1225 1230		
Leu Arg Leu Ser Lys Arg Lys His Arg Lys Ile Pro Phe Ser Lys Arg 1235 1240 1245		
Lys Met Glu Leu Ser Gln Pro Glu Val Ser Glu Asp Phe Glu Glu Asp 1250 1255 1260		
Gly Leu Gly Val Leu Pro Ala Phe Thr Ser Asn Leu Glu Arg Gly Gly 1265 1270 1275 1280		
Val Glu Lys Leu Leu Asp Leu Ser Trp Thr Glu Ser Cys Lys Pro Thr 1285 1290 1295		
Ala Thr Glu Pro Leu Phe Lys Lys Val Ser Pro Trp Glu Thr Ser Thr 1300 1305 1310		
Ser Ser Phe Phe Pro Ile Leu Ala Pro Ala Val Gly Ser Tyr Leu Thr 1315 1320 1325		
Pro Thr Thr Arg Ala His Ser Pro Ala Ser Leu Ser Phe Ala Ser Tyr 1330 1335 1340		
Arg Gln Val Ala Ser Phe Gly Ser Ala Ala Pro Pro Arg Gln Phe Asp 1345 1350 1355 1360		
Ala Ser Gln Phe Ser Gln Gly Pro Val Pro Gly Thr Cys Ala Asp Trp 1365 1370 1375		
Ile Pro Gln Ser Ala Ser Cys Pro Thr Gly Pro Pro Gln Asn Pro Pro		

1380	1385	1390
Ser Ala Pro Tyr Cys Gly Ile Val Phe Ser Gly Ser Ser Leu Ser Ser 1395 1400 1405		
Ala Gln Ser Ala Pro Leu Gln His Pro Gly Gly Phe Thr Thr Arg Pro 1410 1415 1420		
Ser Ala Gly Thr Phe Pro Glu Leu Asp Ser Pro Gln Leu His Phe Ser 1425 1430 1435 1440		
Leu Pro Thr Asp Pro Asp Pro Ile Arg Gly Phe Gly Ser Tyr His Pro 1445 1450 1455		
Ser Ala Tyr Ser Pro Phe His Phe Gln Pro Ser Ala Ala Ser Leu Thr 1460 1465 1470		
Ala Asn Leu Arg Leu Pro Met Ala Ser Ala Leu Pro Glu Ala Leu Cys 1475 1480 1485		
Ser Gln Ser Arg Thr Thr Pro Val Asp Leu Cys Leu Leu Glu Glu Ser 1490 1495 1500		
Val Gly Ser Leu Glu Gly Ser Arg Cys Pro Val Phe Ala Phe Gln Ser 1505 1510 1515 1520		
Ser Asp Thr Glu Ser Asp Glu Leu Ser Glu Val Leu Gln Asp Ser Cys 1525 1530 1535		
Phe Leu Gln Ile Lys Cys Asp Thr Lys Asp Asp Ser Ile Pro Cys Phe 1540 1545 1550		
Leu Glu Val Lys Glu Glu Asp Glu Ile Val Cys Thr Gln His Trp Gln 1555 1560 1565		
Asp Ala Val Pro Trp Thr Glu Leu Leu Ser Leu Gln Thr Glu Asp Gly 1570 1575 1580		
Phe Trp Lys Leu Thr Pro Glu Leu Gly Leu Ile Leu Asn Leu Asn Thr 1585 1590 1595 1600		
Asn Gly Leu His Ser Phe Leu Lys Gln Lys Gly Ile Gln Ser Leu Gly 1605 1610 1615		
Val Lys Gly Arg Glu Cys Leu Leu Asp Leu Ile Ala Thr Met Leu Val 1620 1625 1630		
Leu Gln Phe Ile Arg Thr Arg Leu Glu Lys Glu Gly Ile Val Phe Lys 1635 1640 1645		
Ser Leu Met Lys Met Asp Asp Pro Ser Ile Ser Arg Asn Ile Pro Trp 1650 1655 1660		
Ala Phe Glu Ala Ile Lys Gln Ala Ser Glu Trp Val Arg Arg Thr Glu 1665 1670 1675 1680		
Gly Gln Tyr Pro Ser Ile Cys Pro Arg Leu Glu Leu Gly Asn Asp Trp 1685 1690 1695		
Asp Ser Ala Thr Lys Gln Leu Leu Gly Leu Gln Pro Ile Ser Thr Val		

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<p><210> 3</p> <p><211> 21</p> <p><212> DNA</p> <p><213> Artificial Sequence</p> <p><220></p> <p><223> Description of Artificial Sequence: primer for the human ADPRTL1 gene</p>		
<p><400> 3</p> <p>gatgctgtgc cttggacaga a</p>		21
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<p><400> 4</p> <p>tggtgtaagt ttccagaagc ca</p>		22
<p><210> 5</p> <p><211> 20</p> <p><212> DNA</p> <p><213> Artificial Sequence</p> <p><220></p> <p><223> Description of Artificial Sequence: primer for cyclophilin B gene</p>		
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<p><210> 7</p> <p><211> 20</p>		

<212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence: primer for the
 ribosomal protein S9 gene

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 <210> 8
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 <210> 9
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 <212> DNA
 <213> Artificial Sequence

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 <223> Description of Artificial Sequence: primer for
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 <400> 9
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 <210> 10
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 <210> 11
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<210> 12
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